

Newly Added Claims 11 to 31

11. A low viscosity, hot-melt stable adhesive composition, comprising:

a) at least one block copolymer, comprising at least two terminal poly(vinyl aromatic) blocks and at least one central block of randomly copolymerised isoprene/butadiene mixtures in an isoprene/butadiene weight ratio of from 45/55 to 55/45, having a poly(vinyl aromatic) content in the range of from 17 % to 20 %, a total apparent molecular weight in the range of from 180,000 to 190,000, a content of 1,2-vinyl bonds and/or 3,4 vinyl bonds of at most 15 wt% in the conjugated diene blocks, and a coupling efficiency in the range of from 63 % to 80 %, and occurring in a weight proportion of from 40 wt % to 45 wt%, relative to the weight of the complete composition,

b) an aliphatic/aromatic hydrocarbon tackifying resin, containing less than 16 % by weight of aromatic structure as determined by H-NMR, a differential scanning calorimetry (DSC) glass transition temperature (T_g) between 30°C and 55°C, and a Ring and Ball softening point between 85°C and 95°C, in a weight proportion of from 45 to 55 wt%, relative to the weight of the complete composition,

c) a plasticizer, in a weight proportion of from 5 wt% to 15 wt%, relative to the weight of the complete composition; and having a stable hot-melt viscosity of plus or minus 5 % of the starting value after 24 hours at 177°C and having a hot-melt viscosity of ≤ 80 Pa.s at 177 °C.

12. The low viscosity, hot-melt stable adhesive composition of claim 11, wherein the block copolymer component (a) is a S-(I/B)-S block copolymer, wherein S represents a block of polymerised substantially pure styrene and (I/B) represents a randomly copolymerised isoprene/butadiene block, and wherein the Poly Styrene Content is in the range of from 17 wt% to 20 wt%.

13. The low viscosity, hot-melt stable adhesive composition of claim 12, wherein the component (a) block copolymer has an apparent total molecular weight of from 180,000

to 185,000, an isoprene/butadiene weight ratio in the range of from 45/55 to 55/45, and a content of 1,2-vinyl bonds and/or 3,4-vinyl bonds, each in a proportion of from 5 to 10 wt% in the conjugated diene blocks.

14. The low viscosity, hot-melt stable adhesive composition of claim 1, wherein the component (b) has an H-NMR aromatic structure in the range of from 4 wt% to 10 wt%.

15. The low viscosity, hot-melt stable adhesive composition of claim 1, wherein the component (c) is a mineral oil.

16. An adhesive tape and label, comprising a carrier having disposed thereon a low viscosity, hot-melt stable adhesive composition, comprising:

a) at least one block copolymer, comprising at least two terminal poly(vinyl aromatic) blocks and at least one central block of randomly copolymerised isoprene/butadiene mixtures in an isoprene/butadiene weight ratio of from 45/55 to 55/45, having a poly(vinyl aromatic) content in the range of from 17 % to 20 %, a total apparent molecular weight in the range of from 180,000 to 190,000, a content of 1,2-vinyl bonds and/or 3,4 vinyl bonds of at most 15 wt% in the conjugated diene blocks , and a coupling efficiency in the range of from 63 % to 80 %, and occurring in a weight proportion of from 40 wt % to 45 wt%, relative to the weight of the complete composition,

b) an aliphatic/aromatic hydrocarbon tackifying resin, containing less than 16 % by weight of aromatic structure as determined by H-NMR, a differential scanning calorimetry (DSC) glass transition temperature (T_g) between 30°C and 55°C, and a Ring and Ball softening point between 85°C and 95°C, in a weight proportion of from 45 to 55 wt%, relative to the weight of the complete composition,

c) a plasticizer, in a weight proportion of from 5 wt% to 15 wt%, relative to the weight of the complete composition;

and having a stable hot-melt viscosity of plus or minus 5 % of the starting value after 24 hours at 177°C and having a hot-melt viscosity of ≤ 80 Pa.s at 177 °C.

17. The adhesive tape and label of claim 16, wherein the block copolymer component (a) is a S-(I/B)-S block copolymer, wherein S represents a block of polymerised substantially pure styrene and (I/B) represents a randomly copolymerised isoprene/butadiene block, and wherein the Poly Styrene Content is in the range of from 17 wt% to 20 wt%.

18. The adhesive tape and label of claim 17, wherein the component (a) block copolymer has an apparent total molecular weight of from 180,000 to 185,000, an isoprene/butadiene weight ratio in the range of from 45/55 to 55/45, and a content of 1,2-vinyl bonds and/or 3,4-vinyl bonds, each in a proportion of from 5 to 10 wt% in the conjugated diene blocks.

19. The adhesive tape and label of claim 16, wherein the component (b) has an H-NMR aromatic structure in the range of from 4 wt% to 10 wt%.

20. The adhesive tape and label of claim 16, wherein the component (c) is a mineral oil.

21. A packaging tape, comprising a carrier having disposed thereon a low viscosity, hot-melt stable adhesive composition, comprising:

a) at least one block copolymer, comprising at least two terminal poly(vinyl aromatic) blocks and at least one central block of randomly copolymerised isoprene/butadiene mixtures in an isoprene/butadiene weight ratio of from 45/55 to 55/45, having a poly(vinyl aromatic) content in the range of from 17 % to 20 %, a total apparent molecular weight in the range of from 180,000 to 190,000, a content of 1,2-vinyl bonds and/or 3,4 vinyl bonds of at most 15 wt% in the conjugated diene blocks, and a coupling efficiency in the range of from 63 % to 80 %, and occurring in a weight proportion of

from 40 wt % to 45 wt%, relative to the weight of the complete composition,

b) an aliphatic/aromatic hydrocarbon tackifying resin, containing less than 16 % by weight of aromatic structure as determined by H-NMR, a differential scanning calorimetry (DSC) glass transition temperature (T_g) between 30°C and 55°C, and a Ring and Ball softening point between 85°C and 95°C, in a weight proportion of from 45 to 55 wt%, relative to the weight of the complete composition,

c) a plasticizer, in a weight proportion of from 5 wt% to 15 wt%, relative to the weight of the complete composition;

and having a stable hot-melt viscosity of plus or minus 5 % of the starting value after 24 hours at 177°C and having a hot-melt viscosity of ≤ 80 Pa.s at 177 °C.

22. The packaging tape of claim 21, wherein the block copolymer component (a) is a S-(I/B)-S block copolymer, wherein S represents a block of polymerised substantially pure styrene and (I/B) represents a randomly copolymerised isoprene/butadiene block , and wherein the Poly Styrene Content is in the range of from 17 wt% to 20 wt%.

23. The packaging tape of claim 22, wherein the component (a) block copolymer has an apparent total molecular weight of from 180,000 to 185,000, an isoprene/butadiene weight ratio in the range of from 45/55 to 55/45, and a content of 1,2-vinyl bonds and/or 3,4-vinyl bonds, each in a proportion of from 5 to 10 wt% in the conjugated diene blocks.

24. The packaging tape of claim 21, wherein the component (b) has an H-NMR aromatic structure in the range of from 4 wt% to 10 wt%.

25. The packaging tape of claim 21, wherein the component (c) is a mineral oil comprising a composition according to claims 1-5 on a carrier.

26. Block copolymers to be used in the low viscosity, hot-melt stable adhesive composition comprising: at least one block copolymer, comprising at least two terminal poly(vinyl aromatic) blocks and at least one central block of randomly copolymerised isoprene/butadiene mixtures in an isoprene/butadiene weight ratio of from 45/55 to 55/45, having a poly(vinyl aromatic) content in the range of from 17 % to 20 %, a total apparent molecular weight in the range of from 180,000 to 190,000, a content of 1,2-vinyl bonds and/or 3,4 vinyl bonds of at most 15 wt% in the conjugated diene blocks , and a coupling efficiency in the range of from 63 % to 87 %, and occurring in a weight proportion of from 40 wt % to 45 wt%, relative to the weight of the complete composition.

27. The block copolymers of claim 26, characterized in that they have the structure S-(I/B)-S, wherein S represents a block of polymerised substantially pure styrene and (I/B) represents a randomly copolymerised isoprene/butadiene block.

28. The block copolymers of claim 26, characterized in that they have an apparent total molecular weight of from 180,000 to 185,000, an isoprene/butadiene weight ratio in the range of from 45/55 to 55/45 and a content of 1,2-vinyl bonds and/or 3,4-vinyl bonds, each in a proportion of from 5 to 10 wt% in the conjugated diene blocks.

29. The block copolymers of claim 27, characterized in that they have an apparent total molecular weight of from 180,000 to 185,000, an isoprene/butadiene weight ratio in the range of from 45/55 to 55/45 and a content of 1,2-vinyl bonds and/or 3,4-vinyl bonds, each in a proportion of from 5 to 10 wt% in the conjugated diene blocks.

30. The block copolymer of claim 28 wherein the Poly Styrene Content is in the range of from 17 wt% to 20 wt%.

31. The block copolymer of claim 29 wherein the Poly Styrene Content is in the range of from 17 wt% to 20 wt%.